ON THE SURGICAL TREATMENT

—OF—

# PERITYPHLITIC ABSCESS,

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## *CASE I.

December 5, 1874, I was called to see Annie M——, a fine, healthy-looking Irish girl, 15 years of age, who had never had any serious illness in her life. For two weeks before I saw her she had been complaining of obscure uneasiness, increased at times to rather severe pain, referred mainly to the right iliac fossa, and spreading somewhat over the surfaces of the abdomen. I found her in bed, lying on her back, with her legs drawn up, with an anxious expression of countenance, and very much afraid of being touched or moved; skin somewhat hot and dry (temperature not taken); tongue coated; pulse 100; appetite gone; bowels obstinately constipated.

She complained of pain in the right iliac fossa, and in the hip and knee, that in the hip being most severe. There was tenderness on deep pressure in the iliac region, none over the abdomen. Complained of severe pain when the hip was moved. I ordered hot poultices to be applied over the right iliac region, morphine to the extent of relieving pain, and five grains of sulphate of quinine three times a day.

*This case was published in the *Medical Record*, New York, vol. x., p. 267.

December 6th. Much freer from pain; partially under the influence of morphine; takes abundance of fluid nourishment—milk and beef tea; lies in the same position, with the right thigh flexed at a right angle to the pelvis, and rigidly fixed, resists any attempt to move it; slight abdominal tenderness. The patient continued in almost the same condition, without any daily alterations worthy of notice, until December 10th, when there was an increase of tenderness in the right iliac fossa, which also extended pretty generally over the abdominal surface; aggravation of fever, with great restlessness; refuses almost all nourishment; has had one hard passage from the bowels since last record. Increased the quantity of morphine; continue other treatment.

December 11th. Condition much the same as yesterday; tenderness increased; has vomited some greenish matter. I think I notice to-day, for the first time, some fullness over the right iliac fossa. Continue treatment.

December 12th. The swelling first noticed yesterday is quite perceptible to-day. Fever higher; pulse 110; pain not so severe.

December 15th. Has had a slight chill. At the time of my visit, 10 A. M., is sweating profusely: swelling increased, otherwise condition unchanged; pain more tolerable; takes nourishment better than for last few days. Same treatment.

December 20th. Much worse; pulse 120; moaning constantly with pain; abdomen very tympanitic; vomits frequently a greenish material, and is much distressed thereby.

Swelling quite prominent; cannot tell whether there is fluctuation or not, for the simple reason that it is so tender she would not permit the fingers even to approach it; pro-

posed to cut down upon and open the abscess, which I felt quite sure existed, but the parents would not listen to it. Increased the dose of morphine, and substituted warm fomentations for the poultice, which seemed to distress her by its weight.

December 24th. Opened the abscess. This was the earliest period at which the parents would give their consent, though it should have been done much sooner. The patient being placed fully under the influence of ether, an incision three inches in length was made, an inch and a half above Poupart's ligament, but not exactly parallel to it, being rather over the greatest prominence of the swelling.

The incision was carried down through the several abdominal layers, but without being able to distinguish them accurately, they were so blended together by inflammatory action, until the fascia transversalis was reached. The moment this was opened, there was a tremendous gush of matter (estimated at nearly a pint), of a dirty, gray color, and so unbearably offensive that I was obliged to retreat for a moment into the open air. After the evacuation of the abscess, the finger could be introduced into quite a large cavity, where the cæcum could be distinctly felt, and also the iliac artery plainly pulsating under the finger. A tent of lint was introduced, a large poultice applied, and the patient put to bed, ordered to be kept very quiet, and to have morphine if pain was complained of; not otherwise. Visited her the same evening. She was found very comfortable, and had not needed any morphine. On changing the dressing some shreds of necrotic connective tissue were drawn out of the wound.

December 25th. Patient in excellent condition; free from pain, but quite weak. While syringing out the abscess with a solution of carbolic acid, there was discharged what proved on examination to be the whole appendix vermiformis, in a sloughy, pulpy condition.

No foreign body was found at this, or any other time, though of course one may have been discharged unnoticed in the first violent gush of matter when the abscess was opened. Ordered daily syringing out of the abscess with the solution of carbolic acid, and to take ten drops Tinct. Ferri Mur. every three hours. From this time everything went on excellently well; the patient improved day by day, and though the discharge continued free, and had a feculent odor for the first week, it then began to diminish in quantity, and completely lost its odor.

That there was at first a communication with the intestinal canal, was proved by the discharge from the wound on one or two occasions, of grains of pearl barley contained in some soup the patient had eaten. After the first week picked oakum was substituted for the poultices, and she began to sit up, though the abscess did not entirely close until the beginning of February, 1875, at which time it was completely healed up, and the patient was in perfect health, without the slightest remaining inconvenience from her recent dangerous and alarming illness.

This case deserves notice from the long time that elapsed between the formation of matter, and the opening of the abscess, without any prospect of an external opening being spontaneously accomplished, and from the discharge of the whole appendix vermicularis without a faecal fistula resulting.

CASE II.

I was sent for on the evening of August 18th, 1876, to see Lewis K——, a stout healthy German boy, aged twelve years. About 4 p.m., he was accidentally squeezed between a gate-post and the wheel of a cart that was passing through the gate. The main force of the compression took effect over his abdomen, principally on the right side, and in the right iliac fossa; he was very faint and pale when first injured, and when he rallied, vomited several times.

When I saw him he was still pale, with a feeble pulse, and anxious countenance, and complained of great pain in the right iliac region. There was considerable tenderness, but no tumefaction or discoloration to be observed. I prescribed morphine in sufficient quantity to allay the pain, and hot fomentations over the abdomen.

Next morning he seemed to be much better, had passed a pretty good night, had no pain when he lay still, but could not move without bringing it on, tenderness still well pronounced. No change was made in the treatment, hot cloths to be kept over the abdomen, and morphine enough to be given to keep him free from pain, and slightly somnolent, diet restrained to liquid articles of food, such as soup and milk.

August 20th. Patient much better, can move about in bed without provoking pain, tenderness much less. Treatment continued for a day or two, at the expiration of which time he was so much better that it was discontinued. He kept on improving, and seemed to be so nearly well, that in two weeks from the date of injury he was dressed, and up about the house. He had only been walking about a few days however, when the pain and tenderness in the right iliac fossa returned, and gradually increased until he was obliged to lie on the sofa most of the time with his right leg drawn up toward the abdomen, nor could he extend it, or suffer the least effort in that direction to be made.

He had no fever however, and no pain over the abdomen, but his appetite became very poor, and he emaciated perceptibly, and his bowels moved only at infrequent intervals. He was ordered morphine enough to subdue pain and procure rest at night, hot poultices over the painful part, and full doses of quinine and iron.

September 10th. Lies down all the time, does not complain of any pain except on the slightest attempt at motion.

Has some fever at night, eats hardly anything, and is getting very thin. A distinct, but not well defined, induration, can be felt deep in the right iliac fossa, and extending some distance up the abdomen. Added cod-liver oil and milk punch to his other treatment.

September 15th. Had a chill to-day followed by fever and profuse sweating, swelling more perceptible, but diffused and very indistinct in outline, no fluctuation could be detected.

September 30th. The patient has had several chills, sweats a great deal, pulse rapid, looks very worn and anxious, getting very thin, case assuming a most serious aspect. Dr. Loving met me in consultation in the case to-day, I was inclined to operate at once, but he advised to wait a little longer.

September 25th. Operated with the assistance of Dr. T. C. Hoover, a promising young surgeon of Columbus. Patient fully under the influence of an anæsthetic mixture of alcohol, chloroform, and ether. Made an incision as for ligature of the iliac artery, over three inches in length, and parallel to Poupart's ligament. Dissected down, layer by layer, to the transversalis fascia, and still there was no evidence of fluctuation, but an exploring needle thrust in rendered the existence of pus evident, the fascia was therefore freely incised. A large quantity of stinking matter was evacuated, with numerous old clots of blood; after the emptying of the abscess, the finger on being introduced entered a cavity so large that it could not be fully explored. I could distinctly feel the cæcum, and the vermiform appendix coiled upon it, and firmly bound down by adhesions. A large tent of oiled linen was introduced, and a hot poultice applied. For forty-eight hours after this operation the patient was very low and prostrated; had to give stimulants freely; he then began to rally, and improved very rapidly.

The abscess was syringed out twice daily with a solution of carbolic acid; in four weeks he recovered entirely, and has ever since been fat and hearty.

This case was remarkable for the traumatic origin of the abscess and the slowness with which it formed. It seems quite probable that at the time of the violent accidental compression of the abdomen, some blood was effused in the neighborhood of the cæcum, and afterwards gave rise to inflammation and supuration. Although everything finally turned out well, it is evident that great and unnecessary risk was run in the delay in opening the abscess. Indeed, the principal point in the surgical treatment of these cases, is the propriety of operating promptly when the existence of matter is fairly to be inferred, and thus avoiding many risks, it is this that makes it an important and life-saving operation.

For the two following cases I am indebted to my friend, Dr. Samuel D. Turney, of Circleville, Ohio, in whose practice they occurred, and regret that they are so very meagerly reported.

CASE III.

"Wm. B., aged 17. Had fever, pain in the region of the cæcum, constipation alternating with diarrhoea, running through several weeks.

When I saw him his pulse was 130. There was a hard and tender tumor deep seated in the right iliac region, without fluctuation.

Operated May 5th, 1875, by a curved incision in front of the anterior superior spinous process of the ilium. Found about one ounce of pus behind the cæcum, no foreign body, wound left open, patient recovered."

CASE IV.

"Mrs. M., aged about 30. History of fever, pain and tenderness in right iliac region, constipation or diarrhoea for some weeks.

Found her with fever, tenderness and pain in the region of the cæcum, tumor with distinct fluctuation.

Operation as in last case, April 29th, 1875. Discharge of at least a pint of fetid pus, no foreign body, wound left open, recovery."

These two cases are valuable additions to the statistics of this subject, which, it is believed, are more fully presented in this paper than ever before. The feature of alternating constipation and diarrhoea which they both presented, contrasts strongly with the history of my own cases, which were obstinately constipated throughout, but this difference may have arisen solely from the fact that my patients were fully under the morphine treatment.

Of late years the literature of this subject has been so well written up, that one hazards a good deal in any attempt to add to it. I shall confine myself mainly, in addition to the cases here recorded, to pointing out the more accessible sources of information on the subject, and tabulating all the cases that have been operated upon in any way, that I can find on record.

This table includes more instances than any other which has been published, and thus, if this paper has no other value, I flatter myself it will have some in facilitating the researches of future students, and with this hope it is offered as a contribution to a most interesting and important subject.

Abscesses form in the neighborhood of the right iliac fossa, and around the head of the colon, from a variety of causes, and present certain peculiarities of situation, extent,

&c., which have led to their division into several classes, and given them different names.

All these distinctions are, however, practically unimportant. Whether there be perforation of the appendix, or simply inflammation of and around the caput-coli, from any cause, we may still conveniently and with propriety call all purulent collections thus resulting, perityphlitic abscesses, and consider them together.

Such collections of matter are walled in from the general peritoneal cavity by protective exudation, and are prevented from readily finding an external opening by the thickness of the abdominal walls. The matter thus pent up, if not evacuated by surgical means, may find an exit in various ways, but not often with safety to the patient, as statistics show, that left to nature, most of these cases end fatally.

The pus may find its way into the general peritoneal cavity, with the result of setting up an almost certainly fatal peritonitis; it may be discharged into the intestine, and this, though sometimes a happy termination, is by no means always or even generally so, it may empty into the bladder, or even into the pleural cavity.

None of these events can be considered desirable, some of them are most disastrous, and they may any of them happen while we are idly waiting for an external opening to take place.

Again, while we are waiting, the pus is increasing and accumulating, perhaps decomposing, running the risk of poisoning the system, wearing out the strength by hectic fever, or, as some cases prove, of coroding the iliac arteries, or producing thrombosis of these vessels. With so many and such grave dangers surrounding the patient, and so simple a problem presented for solution, it seems strange indeed that surgeons should have hesitated so long before

establishing the rule of interference in time to prevent the serious risks involved, and as experience now proves, with almost absolute certainty of rescuing the patient.

And yet so it was. For, though the suggestion had been thrown out of relieving these cases by a well-timed operation, no one acted upon it till Mr. Hancock, of London, did so in 1848; and though his case was perfectly successful, no one imitated his example, and the suggestion remained barren and unfruitful.

In 1867, Dr. Willard Parker, of New York, recalled attention to the subject, publishing some successful cases, and soon had numerous imitators, and now this, which is a real surgical improvement and advance, has been established upon a firm basis, and is a thoroughly recognized procedure.

Various suggestions have been made as to the method of operating, but to my mind the simple plan first proposed by Dr. Parker, seems so adequate and appropriate as to stand in no need of improvement, and unless it be in some exceptional case, should be generally followed. The symptoms presented by these cases vary very much, so much indeed as scarcely to admit of a detailed description that shall include all the possible phenomena.

Deep seated and continuous pain and tenderness in the right iliac fossa, persisting for days, with constipation or alternations of diarrhoea, fever, loss of appetite, and vomiting; and the formation of a more or less defined tumor, are the most prominent features. A chill, or repeated chills, may or may not mark the formation of pus; fluctuation is very often absent or masked by tenderness, which prevents a thorough examination, but there is one local sign of great importance as marking the occurrence of suppuration which is not as thoroughly appreciated as it seems to me it ought to be, and that is local œdema of the integument over the swelling, where this exists, it is an almost infallible sign of deep suppuration.

There are occasional cases where symptoms of the greatest obscurity have continued for weeks, leaving the practitioner in doubt, or alternating between various and conflicting opinions, before the existence of an abscess became manifest. In such cases, as a means of exploration, rather than generally as a guide for operation, we may thrust the needle of an aspirator into the swelling, with the safe assurance that it can do no harm even if it pass into intestine instead of an abscess.

Resonance over the tumor cannot be accepted as a diagnostic sign of the presence of intestine, for in several cases of large abscess it has existed, and may be caused by the presence of gas, which, either with or without intestinal perforation, is common in these cases. The exact time when to operate in any given case, must always be a point of some, often of very great perplexity and anxiety. It should be done neither too soon nor too late; time should be given for the collection to be firmly walled in from the peritoneal side; or either the sudden evacuation, by taking off support; or the introduction of instruments or injections may burst through and produce disastrous results. On the other hand to wait too long is simply to prolong the patient's sufferings, and subject him to unnecessary risks. Satisfied of the existence of matter, four or five days, or when the symptoms are mild, somewhat longer would seem to be about the right rule; and if upon cutting down to the facia transversalis, no appearance of bulging of matter be found, and an exploring needle entered at one or more points gives negative results, the wound may be left open; and the physician so far from feeling chagrined at the result, should congratulate himself that if matter is going to form, he has prepared for it a ready exit, and averted much danger and suffering, and if not, he has done no harm.

Several writers have expressed fears of the wound in the abdominal parieties giving rise to future hernia, but I have

not found the record of its having done so, nor aside from this teaching of experience does the apprehension appear to be well founded.

The protective barrier of lymph which has limited the abscess, and preserved the general peritoneal cavity from invasion, tends to prevent hernia, and the healing from the bottom and by filling up in part of the abscess cavity with the firm cicatrization which follows, does not weaken the abdominal wall.

The incision should be generous, the opening free, and after the evacuation of the pus, the introduction of the finger may afford valuable information, and assist in the removal of contents which have not escaped spontaneously.

For the first dressing a good sized tent of oiled linen and a poultice are best, afterwards the daily or twice daily washing out of the cavity with a warm solution of carbolic acid by means of a Davidson's syringe is the plan to be recommended, while oakum to absorb discharges is better than protracted poulticing.

For medical treatment, opium to control pain, suitable nourishment, and in the early stages of the complaint leeches or blisters, or both, have their advocates, and are worthy of a trial, but it may be fairly doubted whether indurated swellings that have threatened abscess but have disappeared under this treatment would not have done so equally well with rest and opium alone.

The annexed statistical table contains forty-six examples in which these abscesses were opened, most of them by regular incision, one or two by mere punctures when the abscess was on the point of bursting, one by a trocar, one by Vienna paste. Of these forty-six cases all recovered but five, of these five fatal cases, three were from peritonitis, one from abscess of the lung, probably metastatic or pyæmic, one from exhaustion.

In many of these cases foreign bodies were discharged from the wound, generally alvine concretions, either single and large, or small and multiple, in one case eight or nine; in one case a cherry stone was discharged, in another several lumbricoid worms, and most extraordinary of all, in my first case the whole appendix vermiformis. My second case supplies the solitary example of one of these abscesses produced by compressing violence to the abdomen. The tables are chiefly valuable as proving the safety and the life-saving effect of the operation of timely incision.

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LITERATURE.

The following list embraces the most important contributions to the subject of late years, omitting single cases, that are contained in the statistical table; for a general resume of literature, I would refer to the very complete list appended to Dr. Bull's paper.

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4. William S. Bull, M. D. New York Medical Journal, September, 1873.

5. J. W. S. Gouley, M. D. Transactions of the Medical Society of the State of New York, 1875.

6. Gordon Buck, M. D. Transactions of the New York Academy of Medicine, second series, Vol. II., 1876.

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| 2 | Willard Parker | Medical Record, New York, vol. II, p. 25 |
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| 5 | Willard Parker | Medical Record, New York, vol. II, p. 25 |
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| 7 | Dr. L. Weber, of N.Y. | Record, vol. VI, p. 113 |
| 8 | Clarkson Freeman | Canada Lancet, February, 1872 |
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| 10 | Dr. H. B. Sands, N.Y. | Medical Record, vol. IX, p. 463 |
| 11 | Dr. Chas. Kelsey, N.Y. | Medical Record, vol. IX, p. 511 |
| 12 | Dr. Samuel B. Ward | Medical Record, vol. IX, p. 510 |
| 13 | Dr. Charles Kelsey | Medical Record, vol. IX, p. 649 |
| 14 | Prof. Weinlechner | Bericht der K. K. Krankenanstalt Wein, 1873. |
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| 17 | Dr. L. Weber | Medical Record, vol. XI, p. 12 |
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| 19 | Dr. Gordon Buck | Medical Record, vol. XI, p. 34 |
| 20 | Dr. Erskine Mason | Medical Record, vol. XI, p. 375 |
| 21 | Dr. Edgar Holden | Medical Record, vol. XI, p. 825 |
| 22 | Dr. J. C. Adams | Medical Record, vol. XII, p. 181 |
| 23 | Dr. Stiegle | Schmidt's Jahrbucher, 1871–73, p. 303 |
| 24 | Dr. Stiegle | Schmidt's Jahrbucher, 1871–73, p. 303 |
| 25 | Dr. Kotman | Schmidt's Jahrbucher, 1871–73, 150, p. 37 |
| 26 | Dr. J. W. S. Gouley | Trans. Med. Society, State of New York, 1875. |
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| 28 | Dr. J. P. P. White | Buck's paper in above vol. of Trans., p. 1 |
| 29 | Dr. J. R. Wood | Buck's Paper |
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| 44 | Dr. S. D. Turney | This Paper |
| 45 | Dr. S. D. Turney | This Paper |
| 46 | Dr. A. C. Post | New York Medical Journal, July, 1877, p. 82 |

| RESULTS. | REMARKS. |
|---|---|
| Recovery | Two large concretions discharged |
| Recovery | Small concretion discharged |
| Recovery | Abscess had partially discharged per rectum; on being opened pus and gas escaped |
| Recovery | Opened twice |
| Recovery | Opened by an incision six inches long |
| Recovery | Incision three inches in length |
| Recovery | No foreign body |
| Recovery | Complicated with Phlegmasia Dolens |
| Recovery | No pus when first opened |
| Recovery | Eight or nine concretions discharged |
| Recovery | |
| Recovery | No pus at first |
| Recovery | No pus when first opened |
| Recovery | Large concretion discharged |
| Died of Peritonitis | Abscess burst into peritoneum after being opened |
| Recovery | No pus at first opening |
| Recovery | Complicated with severe erysipelas |
| Recovery | Passed pus both by bladder and rectum |
| Recovery | |
| Death in 74 days | General Peritonitis |
| Recovery | |
| Recovery | |
| Recovery | Wound closed in eight days |
| Death from abscess of the lung | Punctured with trocar; no pus. Eight days later punctured again; pus |
| Recovery | Opened with Vienna Paste |
| Recovery | Recurrent abscess; the first opened spontaneously |
| Recovery | Discharge of gas and fetid pus |
| Recovery | Aspirated twice before a free opening was made |
| Recovery | |
| Recovery | |
| Recovery | |
| Recovery | |
| Recovery | |
| Recovery | |
| Death | |
| Recovery | |
| Recovery | |
| Recovery | |
| Death in four months. | Abscess opened when on the point of bursting; several lumbricoid worms discharged |
| Recovery | Mistaken at first for a hernia |
| Recovery | Cherry stone discharged |
| Recovery | Appendix Vermiformis came away with the discharge |
| Recovery | Of traumatic origin |
| Recovery | |
| Recovery | |
| Recovery | Boy; aet. 12; sick seventeen days when abscess was opened |